

CLAIMS

1. A motorcycle comprising:

a frame assembly including a steering head, a rear junction, and a plurality of members extending between the steering head and the rear junction;

5 an engine assembly including a crankcase assembly having a rearward end and a forward end, and at least one engine cylinder assembly extending from the crankcase assembly;

a swingarm pivotally coupled to the rearward end;

10 a first mount assembly resiliently coupling at least one of the swingarm and the rearward end to the rear junction;

a second mount assembly resiliently coupling the forward end to at least one of the plurality of members;

a first tie link extending substantially transversely with respect to the frame assembly and coupled to the rear junction and the rearward end;

15 a second tie link extending substantially transversely with respect to the frame assembly and coupled to at least one of the plurality of members and the forward end;

20 a third tie link extending substantially transversely with respect to the frame assembly and coupled to the cylinder assembly and to one of the steering head and at least one of the plurality of members, the third tie link positioned above the second tie link and the second mount assembly.

25 2. The motorcycle of claim 1, wherein the cylinder assembly extends generally upwardly and forwardly from the crankcase assembly and toward the steering head.

30 3. The motorcycle of claim 1, wherein the plurality of members includes a backbone member and a pair of downtube members, and wherein the second tie link is coupled to at least one of the downtube members.

4. The motorcycle of claim 3, wherein the third tie link is coupled to at least one of the downtube members adjacent the steering head.

5. The motorcycle of claim 1, wherein the second tie link is positioned above the second mount assembly.

5 6. The motorcycle of claim 1, wherein the third tie link is positioned between the engine cylinder assembly and the at least one of the plurality of members.

10 7. The motorcycle of claim 1, wherein the engine assembly includes a first cylinder assembly and a second cylinder assembly positioned forwardly of the first cylinder assembly, wherein the third tie link is coupled only to the second cylinder assembly and the frame assembly.

15 8. The motorcycle of claim 7, wherein each cylinder assembly includes an engine cylinder coupled to the crankcase assembly and a cylinder head coupled to a distal end of a respective engine cylinder, and wherein the third tie link is coupled to the cylinder head of the second cylinder assembly.

20 9. The motorcycle of claim 8, wherein the third tie link is positioned forwardly of the cylinder head of the second cylinder assembly and rearwardly of the at least one of the plurality of members.

10. A mount assembly for resiliently mounting an engine to a motorcycle, the engine including a mounting portion defining substantially parallel first and second engine surfaces, the mount assembly comprising:

5 a frame including a mounting portion, the mounting portion defining a frame surface and a mounting axis that is substantially normal to the frame surface;

a first resilient mount having a first frame interface that engages the frame surface, and a first engine interface that engages the first engine surface;

10 a second resilient mount having second engine interface that engages the second engine surface, and a second frame interface; and

a preload bracket removably coupled to the frame and having a bracket surface that engages the second frame interface and axially compresses the first and second resilient mounts.

15 11. The mount assembly of claim 10, wherein the first and second resilient mounts are substantially identical, each mount including a flange portion that is at least partially received by a bore defined by the engine mounting portion.

20 12. The mount assembly of claim 11, wherein each mount includes an integral sleeve extending axially through the mount, the sleeves providing axial alignment between the resilient mounts, the frame, and the preload bracket.

25 13. The mount assembly of claim 10, further comprising a mounting shaft that extends through the first and second resilient mounts and a threaded member for tensioning the mounting shaft, and wherein axial compression applied to the first and second mounts by the preload brackets remains substantially constant regardless of tension applied to the mounting shaft.

30 14. The mount assembly of claim 13, wherein the threaded member includes a bolt, and wherein the bolt pivotally couples a swingarm to the mounting shaft.

15. A mount assembly for resiliently mounting an engine to a motorcycle, the mount assembly comprising:

a generally cylindrical resilient mount including a substantially rigid plate defining an aperture, a substantially rigid flange member having an annular portion and a cylindrical portion extending from the annular portion, a first volume of resilient material extending between the rigid plate and the annular portion, and a second volume of resilient material extending radially inwardly from the cylindrical portion; and

a mounting shaft extending through the aperture, fixed with respect to the rigid plate, and defining an axis, the mounting shaft contacting the second volume of resilient material upon sufficient movement of the rigid plate with respect to the flange member, thereby resiliently limiting radial movement of the rigid plate with respect to the flange member.

16. The mount assembly of claim 15, wherein the second volume includes a radially inwardly extending circumferential rib, and wherein the shaft engages the rib upon sufficient movement of the rigid plate with respect to the flange member.

17. The mount assembly of claim 16, wherein the rib is substantially concentric with respect to the mounting shaft when the engine is mounted in the motorcycle.

18. The mount assembly of claim 15, wherein the first volume defines a generally cylindrical inner surface, and wherein at least a portion of the second volume extends radially inwardly beyond the inner surface.

19. The mount assembly of claim 15, wherein radial movement of the resilient plate with respect to the flange is limited substantially uniformly about a circumference of the mounting shaft.